ABSTRACT

Effect of Subconjunctival Dexamethasone as Adjuvant Therapy for Intravitreal TNF-α and VEGF Level in Proliferative Vitreoretinopathy Grade B-C

Ifan R Lukmana, Evelyn Komaratih, Sauli A Widjaja, Endang Retnowati, Jusak Nugraha, Arifa Mustika, Hari Basuki Notobroto, Tri Subekti,Maria Riandika

Introduction and Objective: To determine the effect of subconjunctival dexamethasone as adjuvant therapy in proliferative vitreoretinopathy (PVR) by measuring TNF-α and VEGF level in vitreous

Method: Experimental study, 36 patients with PVR grade B-C were randomly divided into two groups, 20 patients in treatment group and 16 patients in control group. Vitreous samples were collected undiluted at the beginning of pars plana vitrectomy. All vitreous samples were immediately frozen at -80º C until assayed. TNF-α and VEGF levels were measured using sandwich ELISA. The collected data was processed using Independent t-test and Mann-Whitney test.

Result: The mean TNF-α level in treatment group was 0.71 ± 0.33 pg/ml and in control group was 0.75 ± 0.25 pg/ml. There was no difference in intravitreal TNF-α levels between two groups, p value = 0.697 (p> 0.05). The mean VEGF levels in treatment group was 162.96 ± 302.75 pg/ml and control group was of 33.97 ± 48.57 pg/ml. There was no difference in intravitreal VEGF levels between the two groups, p = 0.566 (p> 0.05).

Conclusion: Subconjunctival dexamethasone as a adjuvant therapy does not provide a significant difference of TNF-α and VEGF level in PVR. It might be caused by difference in grade of PVR and RD duration between two group, and dexamethasone doesn't reach expected effective dose for reducing the levels of cytokine and growth factor in vitreous.

Keyword: Dexamethasone, Subonjunctival, TNF-α, VEGF, Proliferative Vitreoretinopathy